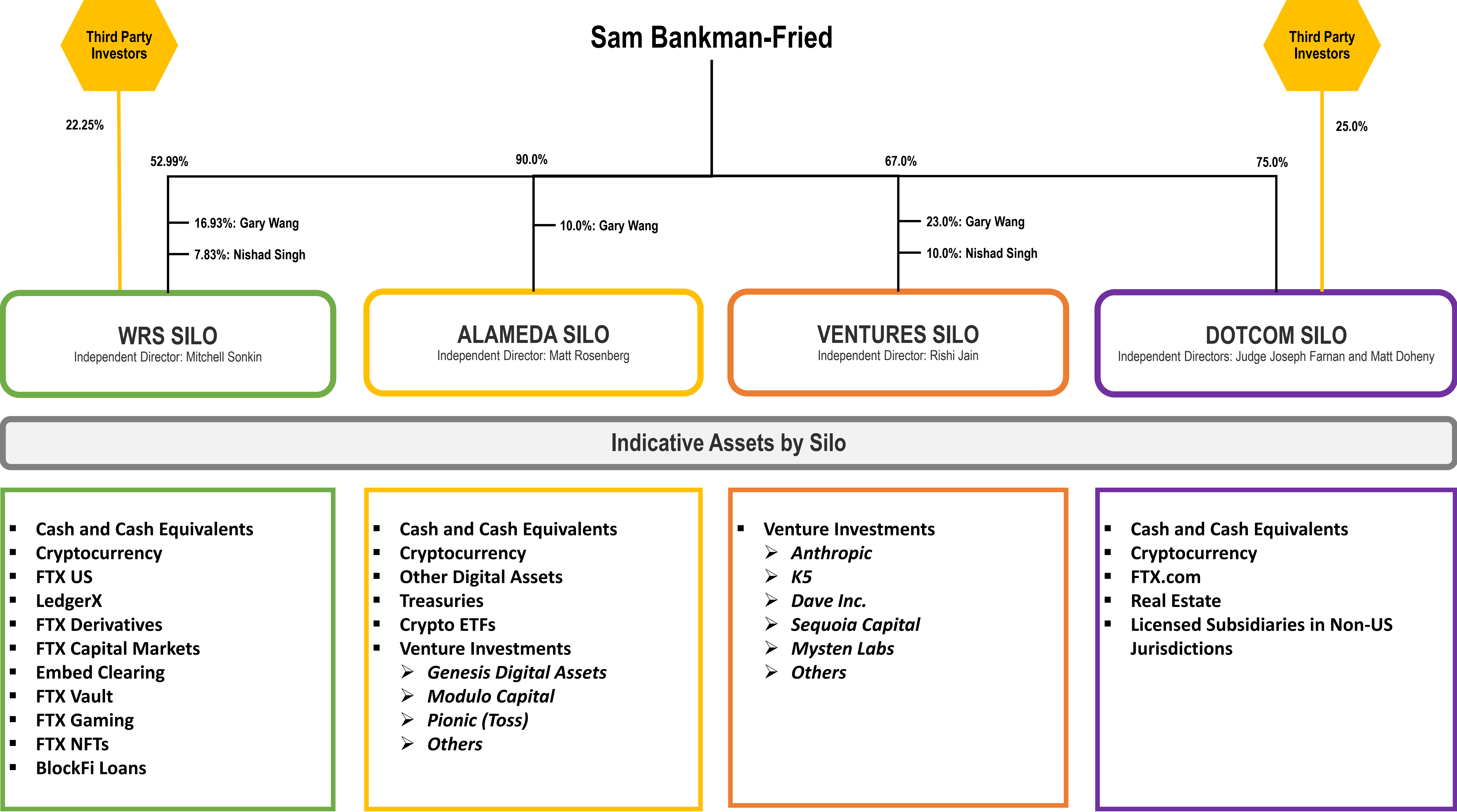


FOUR SILOS FOR RECOVERY PURPOSES

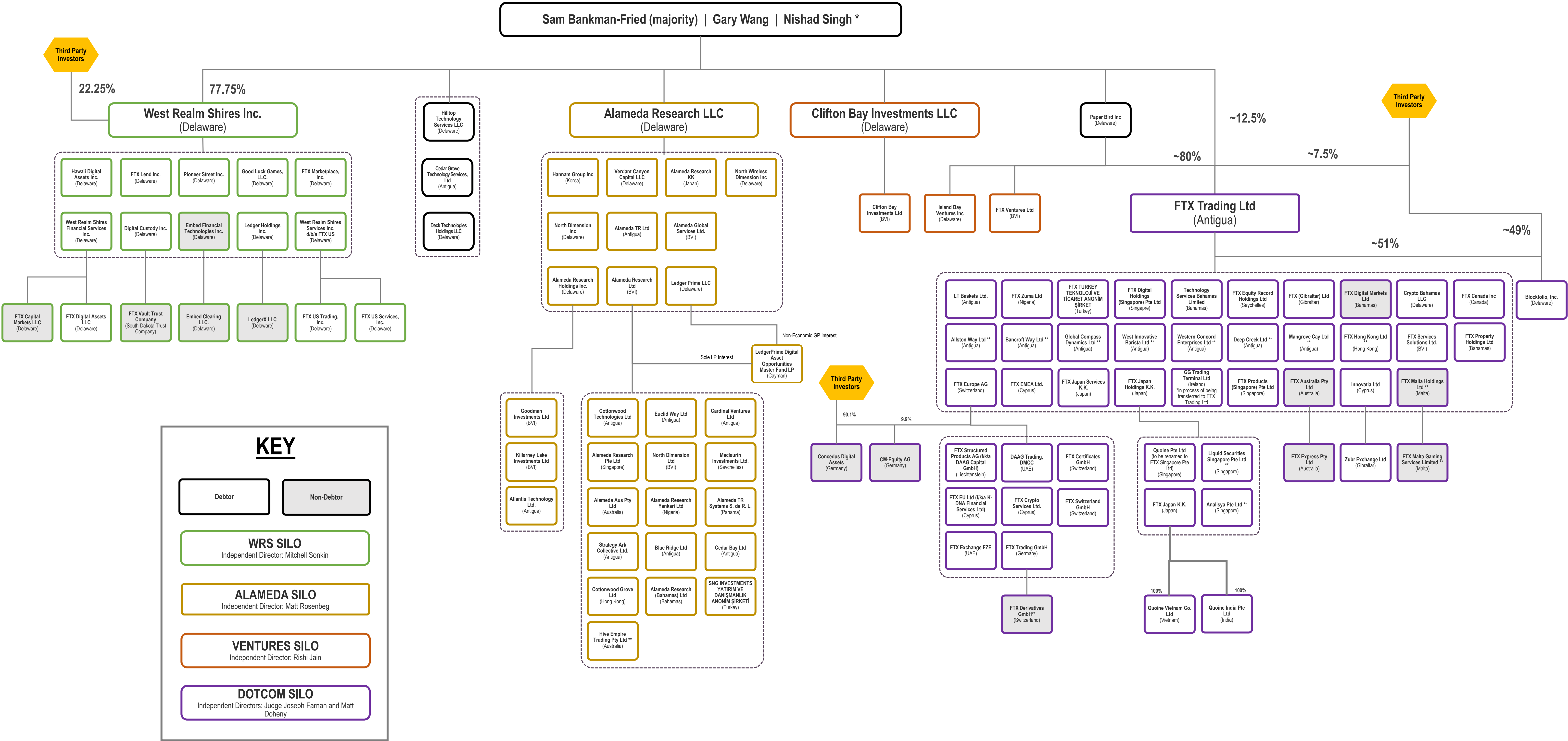


**Exhibit B**

**Preliminary Corporate Structure Chart**

PRELIMINARY ORGANIZATIONAL CHART

Last updated: Draft of November 17, 2022



\* Percentages directly held by each of Sam Bankman-Fried, Gary Wang and Nishad Singh in individual entities varies.

\*\* Indicates non-operational subsidiary entity.

**IN THE UNITED STATES BANKRUPTCY COURT  
FOR THE DISTRICT OF DELAWARE**

In re:

FTX TRADING LTD., *et al.*,<sup>1</sup>

Debtors.

Chapter 11

Case No. 22-11068 (JTD)

(Joint Administration Pending)

**SUPPLEMENTAL DECLARATION OF JOHN J. RAY III  
IN SUPPORT OF FIRST DAY PLEADINGS**

I, John Jr. Ray III, hereby declare under penalty of perjury as follows:

1. I am the Chief Executive Officer of the above-captioned debtors and debtors-in-possession (collectively, the “Debtors”).

2. To organize the conduct of the Debtors’ chapter 11 cases, with the assistance of the Debtors’ advisors, I have organized the Debtors into four “silos” for organizational purposes. Four Debtors were not initially allocated to any silo: Paper Bird Inc, Hilltop Technology Services LLC, Cedar Grove Technology Services, Ltd and Deck Technologies Holdings LLC. After review, I have decided to include Paper Bird Inc, Hilltop Technology Services LLC and Cedar Grove Technology Services, Ltd in the “Ventures Silo” for organizational purposes and, pursuant to my authority under the Omnibus Corporate Authority, dated November 11, 2022, to appoint Rishi Jain as sole director of each of these Debtors.

3. I have not yet decided the appropriate silo for Deck Technologies Holdings LLC.

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<sup>1</sup> The last four digits of FTX Trading Ltd.’s tax identification number are 3288. Due to the large number of debtor entities in these Chapter 11 Cases, a complete list of the Debtors and the last four digits of their federal tax identification numbers is not provided herein. A complete list of such information may be obtained on the website of the Debtors’ proposed claims and noticing agent at <https://cases.ra.kroll.com/FTX>.

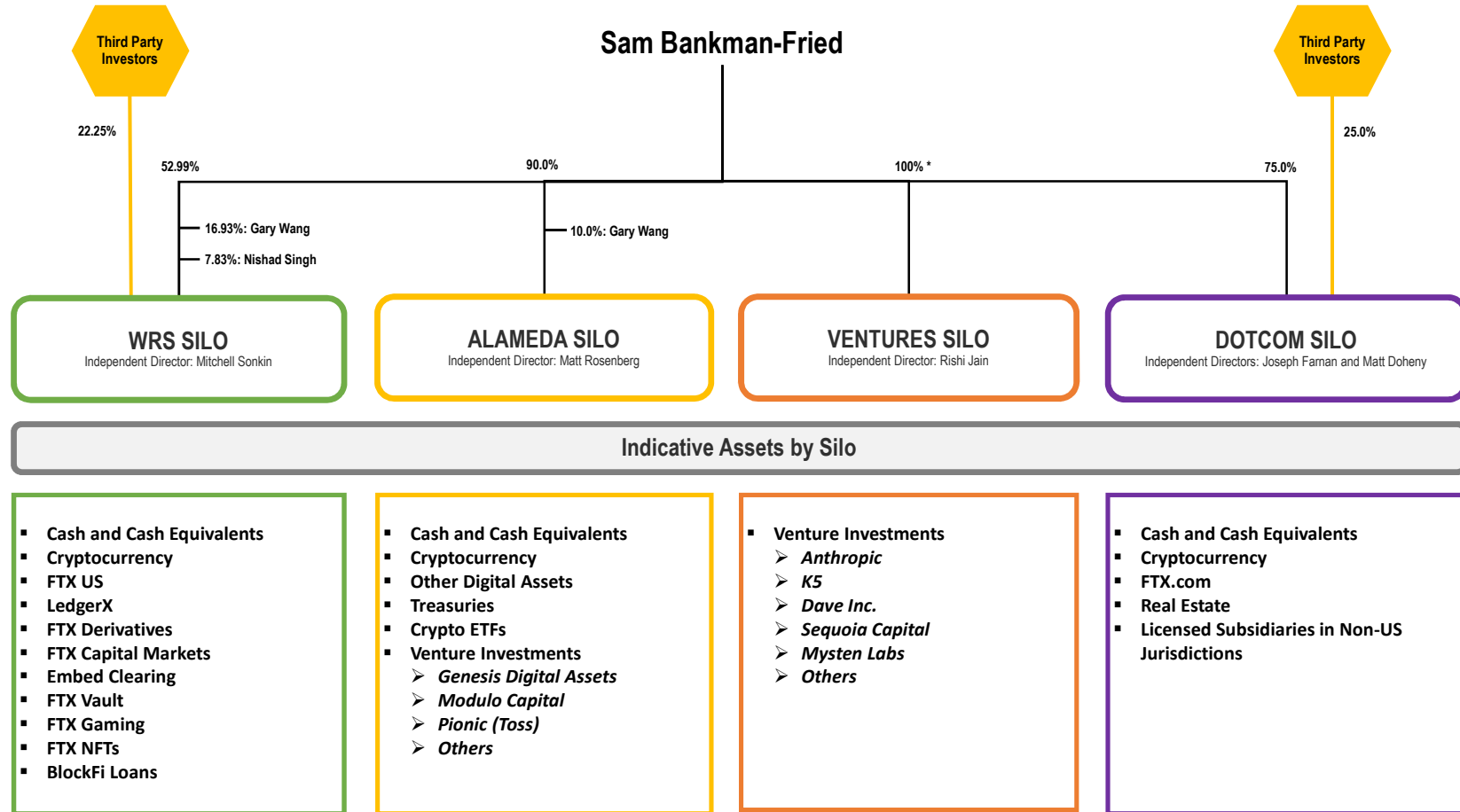
4. Attached as Schedule 1 is an updated organizational chart showing this change.

Dated: November 21, 2022

/s/ John J. Ray III  
Name: John J. Ray III  
Title: Chief Executive Officer

Schedule 1

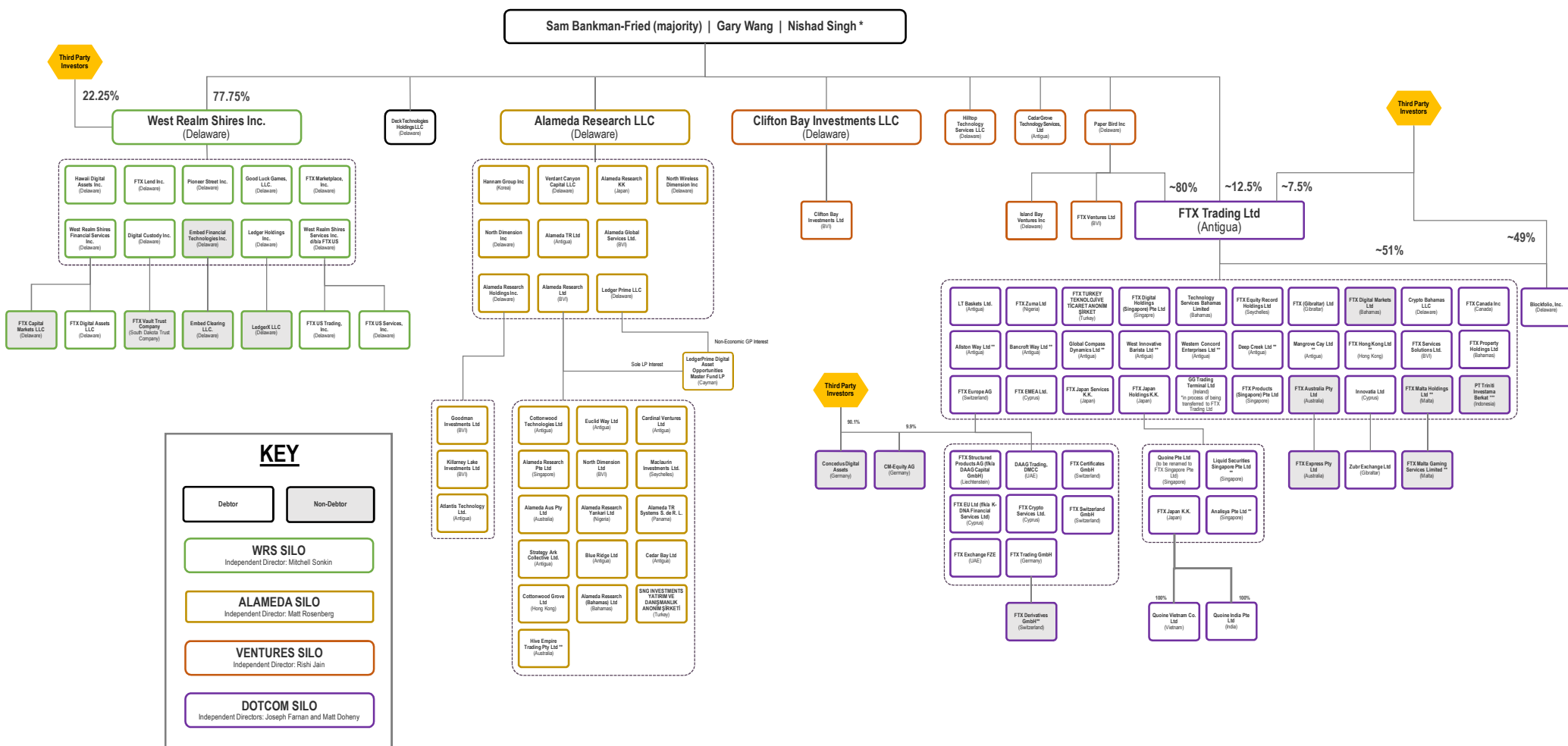
## FOUR SILOS FOR RECOVERY PURPOSES



\* Certain entities in the Venture Silo may have interests directly or indirectly held by Gary Wang and Nishad Singh.

## PRELIMINARY ORGANIZATIONAL CHART

Last updated: Draft of November 20, 2022



\* Percentages directly held by each of Sam Bankman-Fried, Gary Wang and Nishad Singh in individual entities varies.

\*\* Indicates non-operational subsidiary entity.

\*\*\* 99% held by FTX Trading Ltd.



---

**From:** Dietderich, Andrew G. <[dietdericha@sullcrom.com](mailto:dietdericha@sullcrom.com)>  
**Date:** Monday, Nov 07, 2022, 1:55 PM  
**To:** Azman, Darren <[Dazman@mwe.com](mailto:Dazman@mwe.com)>  
**Subject:** RE: [EXTERNAL] Re: Town Hall

That's just Binance silliness. FTX is rock solid, doesn't use customer funds or take credit risk at all. It cannot have "liquidity" issues because it doesn't lend.

I'll get back to you on town hall. Discussing calendar and sequence for closing with debtor later this week.

---

**From:** Azman, Darren <[Dazman@mwe.com](mailto:Dazman@mwe.com)>  
**Date:** Monday, Nov 07, 2022, 1:09 PM  
**To:** Dietderich, Andrew G. <[dietdericha@sullcrom.com](mailto:dietdericha@sullcrom.com)>  
**Subject:** RE: [EXTERNAL] Re: Town Hall

We are getting a lot of inbounds regarding liquidity issues at FTX/Alameda. We also had a lot of leftover questions from the last town hall. I'm thinking we'd like to do another one next week and would like you for your team to be a part of it. We can't be silent on these issues and I don't want to speak for FTX. Let me know your thoughts on timing and who on your side would be best to join and handle FTX-related questions.

DARREN AZMAN  
Partner

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**Tel** +1 212 547 5615 **Mobile** +1 410 409 7591 **Email** [dazman@mwe.com](mailto:dazman@mwe.com)

**Biography** [\[mwe.com\]](https://www.mwe.com) [\[nam10.safelinks.protection.outlook.com\]](https://nam10.safelinks.protection.outlook.com) | **Website** [\[mwe.com\]](https://www.mwe.com) [\[nam10.safelinks.protection.outlook.com\]](https://nam10.safelinks.protection.outlook.com) | **vCard** [\[dynamisend.com\]](https://dynamisend.com) [\[nam10.safelinks.protection.outlook.com\]](https://nam10.safelinks.protection.outlook.com)

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ASC 805 VALUATION OF CERTAIN ASSETS OF

# FTX TRADING LTD.

FOR FINANCIAL REPORTING PURPOSES



April 7, 2022

Jen Chan  
Chief of Staff  
2000 Center Street 4<sup>th</sup> Floor  
Berkeley, CA 94704-1200

Dear Ms. Chan:

In accordance with your request, BDO USA, LLP (“BDO,” “we,” “our,” or “us”) has determined the fair value of certain intangible assets and liabilities (collectively, the “Subject Items”) related to the transaction with Digital Assets DA AG (“DAAG,” the “Seller” or the “Company”), acquired by FTX Trading Ltd. (“FTX Trading” or the “Acquirer” or the “Client”) on November 14, 2021 (the “Valuation Date”). We submit our findings in this valuation report.

This valuation analysis was conducted for financial reporting purposes in connection with U.S. Generally Accepted Accounting Principles (“GAAP”) and Accounting Standards Codification (“ASC”) Topic 805 (“ASC 805”). FTX Trading is the sole intended user of this report, and the use of the report is restricted to the purpose indicated herein. BDO is not responsible for the unauthorized use of this report. We authorize the Client’s auditors to have access to this report, as necessary to perform audit testing procedures associated with the Client’s financial statements.

Descriptions of the methodologies and procedures utilized in our valuation analyses, as well as the factors we considered in formulating our opinion are presented in this valuation report. In addition, we have listed the sources of information used in this report and the scope of work in the course of our investigation. This report is subject to the

attached limiting conditions and to the Statement of Work dated February 23, 2022, for this assignment.

Based on our analysis, in accordance with ASC 805, as presented in the table below and in Appendix VII, Schedule 1, it is our opinion that the fair values of the Subject Items as of the Valuation Date are:

Subject Assets/Liabilities	Fair Value (Rounded in \$)
Trade Name	\$ 1,400,000
Operating Licenses	\$ 152,100,000
Contingent Consideration	\$ 83,479,000

Very truly yours,

*BDO USA, LLP*

BDO USA, LLP

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# Engagement Overview

BDO was retained to determine the fair value of the Subject Assets of DAAG, acquired by FTX Trading on November 14, 2021. This valuation analysis was conducted for financial reporting purposes in connection with ASC 805, Business Combinations.

## Standard of Value

ASC 805 refers to ASC 820 for guidance in defining fair value. ASC 820 establishes a consistent definition of fair value and provides a framework for measuring fair value. The standard of value to be used in our analysis for financial reporting purposes is fair value. Fair value is defined in FASB's ASC 820 as:

*"... the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date."*

In estimating the fair value of the assets, ASC 820 requires specific consideration of the following framework:

- Unit of account for the acquired assets;
- Exit market (i.e. the principal or most advantageous market) for the acquired assets;
- Market participants in the exit market;
- Highest and best use of the acquired assets;

- Valuation premise (In-use or In-exchange) for acquired assets;
- Specific valuation techniques; and,
- Valuation inputs, including a fair value hierarchy.

BDO's consideration of this framework is discussed in greater detail in Appendix VI.

## Level of Value and Premise of Value

The Subject Assets were valued on a going concern basis, which assumes that they will be utilized in an ongoing business with no plans to liquidate in the foreseeable future.

## Scope

The scope of this valuation encompassed such steps and procedures as we deemed necessary, including, but not limited to, the following:

- Discussions with Management relative to the nature of the Company's business activities, the magnitude and character of the markets served, recent and prospective financial trends and conditions, the economic outlook and future operating plans of the Company, and other relevant factors associated with DAAG and its Subject Assets;
- Consideration of ASC 805, ASC 820, and other relevant Accounting Standards Codification Sections and guidelines as promulgated by the Financial Accounting Standards Board that address the valuation of business enterprises or the underlying tangible and intangible assets of such going concern entities for financial reporting purposes;

- Research, review and analysis of, among other things: (i) the financial condition of the Company; (ii) the recent historical and prospective return capacity of the Company; (iii) the transaction; (iv) the various documents supplied to us by Management or as compiled by us from other sources; (v) the history and nature of the Company; (vi) economic, industry, and stock market trends and data; and (vii) capital market evidence regarding investment rates of return; and,
- An analysis of other relevant facts and data available resulting in an independent opinion of value applicable only within the context of the stated purpose of this valuation.

The Subject Items identified include trade names and trademarks, customer relationships, and contingent consideration.

The implied fair value of goodwill was determined based upon a purchase price residual methodology. We have not conducted a valuation of any current or tangible assets in conjunction with the transaction. We understand that this valuation will be used for financial reporting and it is not valid for any other purpose or use.

## Sources of Information

In connection with this report, we have made such reviews, analyses, and inquiries as we have deemed necessary and appropriate under the circumstances. In the course of our valuation we have relied upon information provided to us by Management. The principal information provided to us and used in our valuation is outlined in Appendix I.

# Overview of the Transaction

## Parties and Structure

FTX Trading and the Seller, DAAG, entered into a stock purchase agreement on the Valuation Date (the “Purchase Agreement”). As part of the Transaction, FTX purchased the remaining 80 percent stake in DAAG. The key parties of the transaction (the “Transaction”) are outlined below:

- Seller: Digital Assets DA AG
- Acquirer: FTX Trading Ltd.

The Transaction was structured as a stock purchase for tax purposes and meets the requirement of a business combination under ASC 805. As such, a step-up in the tax basis of the acquired intangible assets, including goodwill, will occur.

## Purchase Price

Total purchase price was comprised of \$166.7 million in cash consideration and contingent consideration of up to \$93.3 million, should certain milestones be achieved. VBA fair valued this component and arrived at a fair value of contingent consideration of \$83.5 million. This resulted in a total consideration paid of the 80

percent interest of \$250.1 million. We note that FTX previously held a minority (20 percent) interest in DAAG. Based on the price paid for the 80 percent interest, the implied minority interest was valued at \$62.5 million. The Transaction was consummated in an arm’s-length basis by knowledgeable, unrelated parties. As such, it is reasonable to presume that the Transaction consideration represents fair value as viewed by a typical market participant. Additional evidence that the Transaction value approximates fair value is indicated by the fact that no additional buyers stepped in at a higher offer. Finally, as the Internal Rate of Return (“IRR”) of the Transaction and the market-participant based Weighted Average Cost of Capital (“WACC”) approximate one another (as discussed in a subsequent section of this report), the transaction value reasonably represents fair value.

## Rationale for the Acquisition

FTX Trading acquired certain assets as part of the Transaction:

- Trade Name
- Operating Licenses

FTX Trading is a cryptocurrency brokerage firm that operates in Europe and the Middle East. The primary rationale behind the acquisition of DAAG was to acquire its operating licenses. The Company’s operating licenses allow it to sell public securities as tokens on the blockchain in a broad geographic area, including Cyprus, Switzerland, and Dubai. FTX Trading through this acquisition aims to develop a strong presence in these markets. Furthermore, the Company’s existing business relationships and in-process bank acquisition in Lichtenstein, will further facilitate FTX Trading’s expansion through Europe by smoothing the regulatory processes in the region.

# Target Company Overview

## Background<sup>1</sup>

DAAG is a leading Swiss-based firm focusing on the design, structure, and issuance of tokenized financial instruments. Offering a regulatory compliant, API driven, and scalable infrastructure framework facilitates the creation of novel products for digital clients.

The most relevant asset owned by DAAG are the operating licenses (the “Operating Licenses”), that allows the firm to act as an exchange and a clearing house for cryptocurrency derivatives and other tokenized financial instruments. Below is a description of the Operating Licenses:

Company's Related Entity	Description
Canco GmbH, Pfäffikon	AML-License in Switzerland
DAAG DMCC, Dubai	Trading License
FTX Europe AG, Pfäffikon	Modulus, Matching engine, Crypto Derivative Exchange
K-DNA FS Ltd, Cyprus	Cycec Trading License
DAAG Certificates GmbH, Herisau	FMA Liechtenstein, Tokenized stocks license

<sup>1</sup> Reference: <https://medium.com/digital-assets-ag/about>



## Review of Prospective Financial Information

We have evaluated the Prospective Financial Information (“PFI”) was provided by Management and is presented in Appendix VII, Schedules 3 and 4. The PFI for periods between December 31, 2021 and December 31, 2026 was prepared by Management as of the Valuation Date and reflect the anticipated revenue and cash flow to be produced by the Company from the perspective of a hypothetical market participant. Beyond 2026, VBA tapered revenue growth rates down to a normalized level in the terminal year. The projections include the in-process acquisition of a financial institution at the time of the Transaction, the burgeoning cryptocurrency derivatives market as well as the Company’s ability to take advantage of this market in Europe and the Middle East via its Operating Licenses.

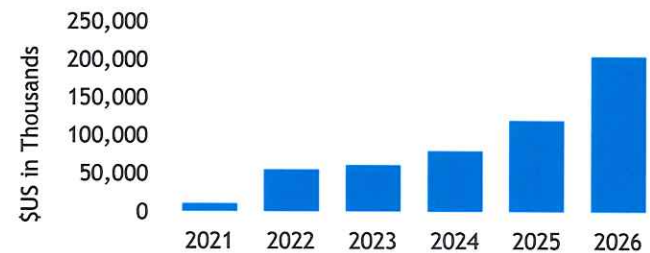
In addition to detailed conversations with Management regarding the PFI, BDO performed various analyses to assess the reasonableness of the forecast utilized within the analysis, including:

- Comparing the Company’s historical performance to assumptions included in the PFI; and
- Benchmarked the assumptions in the PFI to relevant industry trends.

Based on our evaluation, we believe that the PFI is reasonable for business and intangible asset valuation purposes.

### Revenue

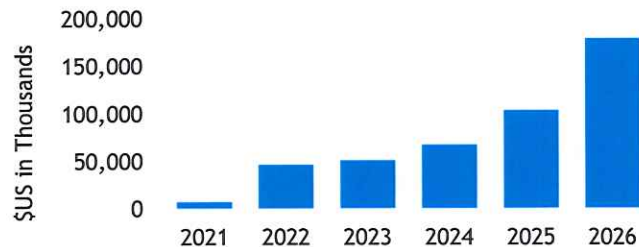
#### PROJECTED REVENUE FYE DEC 31



Total revenue for DAAG was projected to grow from \$11.9 million for the year-ending December 31, 2021 to \$205.7 million by the year-ending December 31, 2026, representing a 6-year CAGR of 60.82 percent. Based on discussions with Management, the projected revenue growth is directly correlated to the rising need for tokenized public securities in the cryptocurrency environment.

## Earnings before Interest, Taxes, Depreciation and Amortization (“EBITDA”)

### PROJECTED EBITDA FYE DEC 31



EBITDA Margin was projected to increase from 64.3 percent of revenue in the year-ending December 31, 2021 to 87.2 percent of revenue by the year-ending December 31, 2026. VBA received historical, unaudited financial statements. The Company maintained steady, profitable EBITDA margins throughout its initial growth phase. EBITDA, as noted in Appendix VII, Schedule 3, is expected to grow steadily during the forecast period as the Company scales.

## Capital Expenditures and Depreciation

Capital expenditures (“CapEx”) are made to maintain the proper level of property, plant, and equipment (i.e., not impair normal business operations). The estimated capital expenditures should reflect the capacity necessary for the business to achieve the estimated revenue. Management provided that capital expenditures were to be projected at 1.0 percent of revenue for the discrete projection period. Capital

expenditures were assumed to equal depreciation into perpetuity. The Company’s capital expenditure level fell in line with the Guideline Public Companies (“GPC”) as of the Valuation Date.

## DFCFNWC

As revenues increase, businesses generally require incremental investments in working capital. We utilized a normalized DFCFNWC requirements as a percentage of total revenue of 5.4 percent based on an analysis of the GPCs discussed in a following section of the report. Normalized DFCFNWC requirements, based on the Company’s annualized revenues for 2021, were then compared with the Company’s actual DFCFNWC at the Valuation Date to determine if there was a deficiency or excess compared to a market participant. Based on the Company’s balance sheet as of the Valuation Date, we calculated excess DFCFNWC of \$11.7 million.

DFCFNWC forecasts for the projection period were calculated based on a review of the Company’s historical working capital requirements and the requirements of the GPCs. The DFCFNWC level in the terminal year was assumed to equal the same normalized percentage of revenue as the previous year of the projection period.

## Tax Rate

The tax rate used in our analysis was 12.0 percent. This effective tax rate was based on a blended federal and canton rate in Switzerland, as provided by Management.

## Tax Amortization Benefit

Under Internal Revenue Code Section 197 (enacted in 1993), a taxpayer shall be entitled to an amortization deduction with respect to any amortizable Section 197 intangible asset. The amount of this deduction can be determined by amortizing the adjusted basis of the intangible asset over a 15-year period beginning with the month in which the intangible asset was acquired.

Further, for financial reporting purposes, the fair value standard relative to intangible assets indicates that any income tax benefits due to amortization should be included in the determination of fair value, irrespective of whether a given business combination has been accomplished on a taxable or a tax-free basis (i.e., in an asset deal versus a stock deal). The tax benefits associated with the amortization of the Company's intangible assets are calculated based upon the assumed tax rate, the discount rate and the statutory amortization period.

The fair value of the asset is multiplied by the tax amortization benefit factor to arrive at the total fair value indication for each asset.

## External Environment

A valuation of an asset, business, or business interest must consider current and prospective economic and industry conditions that may have an impact on the operations and financial condition of the business.

### Economic Conditions & Industry Conditions

In this analysis, we have examined the general economic and industry environment conditions that existed as of the Valuation Date. Appendix V provides an overview of selected economic and industry factors that prevailed as of the Valuation Date, as well as a discussion of the factors that are crucial over an extended period of time.

Improving macroeconomic conditions over the five years to 2026 are also expected to lead corporate profit and research and development expenditures to increase an annualized 2.6 percent and 3.1 percent, respectively, over the five years to 2026. These trends are expected to lead to increased demand for industry operators such as Ledger. In fact, exchanges are expected to continue to focus on expanding their high-margin derivatives trading platforms, which will increase trading volume during the five-year period as investor preference for these asset classes grows.

Additional relevant factors are growth in personal savings and shifting preferences should support trade volume of cryptocurrencies over the

five years to 2026. As of the Valuation Date, regulatory changes for this industry still uncertain.

Overall, the macroeconomic trends and industry outlook appears to represent a positive environment in which the Company can achieve its goals.



## Derivation of Rates of Return

Valuation theory states that the value of an asset is the present value of its expected cash flows discounted at an appropriate cost of capital. The discount rate refers to the rate of return that a prudent investor would require in the purchase of an interest in a given company or its assets. It is also a general term that is used to describe a rate of return used to convert a monetary sum payable or receivable in the future into present value. In economic terms, it represents the opportunity cost, or expected rate of return, that an investor would have to forego by investing in a particular investment instead of in available alternative investments that are comparable in terms of their risk profiles and other pertinent characteristics.

In our determination of the appropriate discount rates to apply to the specific intangible assets valued herein, we gave consideration to the discount rate implied by the transaction and a discount rate that would be reasonably assumed by a market participant.

### Discount Rate Implied by the Transaction

The Internal Rate of Return (“IRR”) implied by the total consideration paid in the transaction can be used as a starting point in determining

the appropriate discount rates for the subject intangible assets. The IRR reconciles the financial forecasts that were used as the basis for the transaction to the total purchase consideration paid.

We have employed an income approach, utilizing a Discounted Cash Flow (“DCF”) methodology based upon PFI provided by Management to determine the overall after-tax discount rate implied by the Transaction. The DCF analysis resulted in an IRR of 38.0 percent. (Appendix VII, Schedule 5) Cash and cash equivalents of approximately \$19.1 million and excess working capital of approximately \$11.7 million were added to the sum of the present value of cash flows to form our overall opinion for the IRR.

In the analysis, we have discounted the projected net cash flows back to their present value using a mid-year discounting convention. The use of mid-year discounting factors better reflects the assumption that net cash flows will be generated evenly throughout the year, rather than at the beginning or end of the year. The terminal value, which is assumed to be at the beginning of the period immediately following the discrete projection period, has been discounted back to the present value by the same number of years as the last term of the discrete projection period.<sup>2</sup>

### Weighted Average Cost of Capital

A market based Weighted Average Cost of Capital was derived as a benchmark for consideration relative to the discount rate implied by the transaction. The discount rate comprises two components:

<sup>2</sup> *Valuing a Business*, Shannon P. Pratt, Robert Reilly, Robert P. Schweiks; published by McGraw-Hill.

- i. *Time Value of Money - Time value of money deals with the concept that \$1 received today is worth more to an investor than \$1 received at some future date. This is attributable to the foregoing of the use of funds over the holding period, as well as an expected rate of inflation over the holding period. It must be understood that time value of money in no way deals with risk. It is further assumed that a prudent investor will always choose \$1 in-hand versus the guarantee of \$1 in the future because the investor can invest this in-hand dollar at some rate of return.*
- ii. *Risk - Risk is defined in terms of financial structure (financial risk) and in terms of a company's markets (business risk). Financial risk refers to the possibility of bankruptcy and the variability of the returns to equity investors due to the amount of debt. Business risk refers to the variability of earnings from the company's operations.*

The rate of return expected by a prudent investor from an investment is, therefore, related to the perceived risk stemming from:

- i. *The general level of interest rates;*
- ii. *A premium for perceived financial risk; and*
- iii. *A premium for perceived business risk.*

Generally, academic studies have shown that stockholders expect to receive a premium over a risk-free rate of return as evidenced by the return on U.S. government bonds. Small market capitalization stocks command an additional premium. For a particular company, the risk-free rate is adjusted by a factor called beta, which relates the general market premia to the specific risks associated with the Company.

The estimates of cash flows developed in this analysis are presented on a debt-free basis, representing the cash flow available to both debt and equity investors. Accordingly, the discount rate applied to the cash flows is based upon a market-based Weighted Average Cost of Capital ("WACC"), which is an estimate of the after-tax rate of return required by debt and equity investors of the business enterprise.

DAAG's cost of equity capital and cost of debt capital were developed based on data and factors relevant to the economy, the industry, and the Company, as of the Valuation Date. These costs were then weighted in terms of a typical industry or market participant capital structure to determine the WACC.

<b>WACC</b>	=	$(W_d)(K_d) + (W_e)(K_e)$
<b>where <math>W_d</math></b>	=	Weighting of debt to total capital
<b><math>K_d</math></b>	=	After-tax cost of debt capital
<b><math>W_e</math></b>	=	Weighting of equity to total capital
<b><math>K_e</math></b>	=	Cost of equity capital

## Cost of Debt ( $K_D$ )

The rate of return on debt capital ( $K_d$ ) is the incremental average borrowing cost that a market participant would expect to pay to finance the capital structure would expect to pay to obtain debt financing based on the assumed capital structure. The effective cost of debt is the after-tax cost since interest expense is tax deductible. The after-tax cost of debt is calculated as follows:

$$\begin{aligned}
 K_d &= \text{Selected pre-tax interest rate} \times (1 - T) \\
 \text{where } K_d &= \text{After-tax cost of debt (effective cost)} \\
 T &= \text{Tax rate for the Company}
 \end{aligned}$$

For DAAG, the pre-tax cost of debt is based on the yield of Baa rated corporate bonds, as rated by Moody's credit rating agency, as of the Valuation Date of 3.3 percent. A tax rate of 12.0 percent was selected based on information provided by Management. The after-tax cost of debt for Ledger Holdings was 2.9 percent.

## Cost of Equity ( $K_E$ )

The cost of equity, or required return on equity, was determined using the Modified Capital Asset Pricing Model ("CAPM").

The CAPM uses a risk-free rate of return and an appropriate market risk premium for equity investments. The traditional CAPM does not consider business size risk or unsystematic risk. These risks can be considered by adding risk premiums for size and business specific (unsystematic) risks. The CAPM equation, modified to account for business size risk and unsystematic risk, is as follows:

$$K_E = R_f + B_e (R_m - R_f) + SP + CSRP$$

## Guideline Public Companies/Market Participants

As part of the analysis and to estimate certain market-based inputs to the CAPM, information on potential GPCs was gathered using Capital IQ. We researched companies operating in the Security and Commodity Exchanges industry. A GPC was considered a comparable company if the following search criteria were met:

Company Type: Public Company;

Primary Industry Classification of Company: "Security and Commodity Exchanges";

Primary Geographic Location of Company: United States and Canada; and

Business description considered reasonably similar to that of the Company, i.e. operates within the cryptocurrency industry.

A total of 11 GPCs were chosen based on our search criteria. Financial data and a brief description of each of these GPCs are summarized in Appendix 3 through 4.

## Risk-free Rate ( $R_f$ )

The risk-free rate of return is represented by the yield on 20-year U.S. Treasury constant maturities. As of the Valuation Date, the risk-free rate was 2.0 percent.



## Re-Levered Beta ( $B_E$ )

Beta is a measure of systematic risk and is expressed as a function of the relationship between the *excess return* on an individual security and the return on the market as measured by a broad index such as the Standard & Poor's 500 Stock Composite Index ("S&P 500"). For the market as a whole, the beta, by definition, is equal to 1.0. For the purpose of this analysis, we have utilized the five-year monthly adjusted, levered betas regressed against the S&P 500 index as reported by Capital IQ evidenced by the GPCs. These betas were unlevered using the respective GPC's historical 5-year capital structure prior to the Valuation Date to determine the unlevered betas and ultimately selected a capital structure of 12.5 percent debt.

Published betas can be referred to as *levered* betas because they reflect the financial leverage of a company's capital structure. In the course of this analysis, it is necessary to adjust the betas of the GPCs to reflect the selected capital structure of the Company. This adjustment is performed by calculating *unlevered* betas for the GPCs.

The unlevered beta removes the effects of debt from the capital structure to reflect a required return on an investment when the investment is financed entirely by equity. We then calculated the re-levered beta by incorporating the selected capital structure into the equation. The resulting beta of 1.20 is thus market-based with a specific adjustment for the degree of financial leverage of the Company.

## Equity Risk Premium ( $R_M - R_F$ )

The equity risk premium ("ERP") is the expected return of the market ( $R_M$ ) in excess of the risk-free rate ( $R_F$ ), or, mathematically,  $R_M - R_F$ , and reflects the incremental premium realized by investors in representative common stocks above the historical return of long-term government bonds that represent risk-free investments.

The ERP is depicted in a study published by Duff & Phelps in the 2021 Valuation Handbook - Guide to Cost of Capital (the "D&P Handbook"). As described in the D&P Handbook, the annual returns in excess of the historical risk-free rate for investments in the publicly traded common stocks of large U.S. companies<sup>3</sup> during the years 1926-2020 was 6.0 percent (based on supply-side). This return is on a supply-side basis where the "supply" of stock market returns is a function of inflation, income returns and three-year average earnings. Growth in price / earnings ("PE") ratios is excluded from this calculation of returns as the rise in PE ratios from 1980 through 2001 caused a distortion of historical returns. The D&P Handbook calculates another measure of the ERP, the historical equity risk premium, as the large company total stock returns less long-term government bond income returns, or 7.25 percent.

We ultimately selected the 6.0 percent supply-side equity risk premium as the most appropriate measure of the forward-looking ERP, as it represents the anticipated future ERP, rather than a historical measure of the ERP.

<sup>3</sup> As measured by deciles 1 and 2 of the D&P Handbook (largest U.S. companies).



## Size Premium (SP)

The SP is often used in conjunction with the CAPM because many studies have shown that small capitalization equity securities outperform large capitalization equity securities, even after adjusting for the systematic risk (beta) of small stocks. These studies suggest that additional risk is related to small capitalization equity securities beyond that explained by the CAPM. Although the betas tend to be greater than those of large capitalization equity securities, they do not account for all of the risks faced by investors in small equity securities. Accordingly, we have selected and included a SP of approximately 5.0 percent based on companies in decile 10 as reported by the 2021 Valuation Handbook, published by Duff & Phelps.

## Company Specific Risk Premium (CSRP)

An adjustment must also be made for the “company-specific risk.” In our judgment, an investor would require an additional return above the aforementioned equity and small company risk premiums in order to be appropriately compensated for the risks associated with an investment in an entity such as the Company. In general, this considers factors such as geographic scope, diversity of product lines, customer concentration, depth of Management, financial strength, legal and regulatory landscape, perceived risk in achieving projections, and other company-specific factors relative to the chosen GPCs. The company specific risk premium has been determined to be 28.0 percent. This premium is based on the risk of achieving the projections. We note the projections are significant and represent a significant improvement in the performance of the target company. Furthermore, we note the target is operating in a segment where the underlying asset class is relatively new and extremely volatile.

## Capital Structure

The cost of equity and cost of debt was then weighted using a capital structure of 87.5 percent equity and 12.5 percent debt, consistent with the median capital structure exhibited by the selected guideline companies.

## WACC Conclusion

Based on the preceding analysis of each of the components, the concluded WACC for the Company was calculated as follows:

WACC	=	$(W_d)(K_d) + (W_e)(K_e)$
WACC	=	$(12.5\%)(2.9\%) + (87.5\%)(42.2\%)$
WACC	=	37.3%
WACC (Rounded)	=	37.5%

Appendix VII, Schedule 6 present further details of the WACC development.

## Discount Rate Derivation - Subject Assets

The valuation of intangible assets is distinctly different from the discounted cash flow valuations that are typically used to value corporations. This is due to the fact that corporate valuations involve discounting the cash flows at the aggregate corporate level, while the valuation of intangible assets considers discounting future earnings or expected cost savings to be generated by the exploitation of particular